

Let There Be Savings

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Shedding light on reduced operating expenses with LEDs

Increased labor costs and changing traffic trends made it a bleak 2016 for operators. Yet those resilient industry members responded by focusing efforts on controlling operating expenses.

But where are the savings? The simple answer is to look up and see significant savings opportunities in your facility's lighting.

Although lighting is often viewed as a fixed expense, updating it is one way to reduce energy expenses by as much as 50 percent.

Untapped Potential

Incredible advances in LED lighting technology continue to occur. A 2016 U.S. Department of Energy (DOE) report indicates that while only 6 percent of lighting sales were LED in 2015, they are expected to reach anywhere from a quarter to upward of 80 percent by 2020. Furthermore, in the 2016 Low Carbon Economy report Goldman Sachs called out the LED industry as one of "the fastest technology shifts in human history."

Per the DOE, energy-efficient LED lights use 75 percent less energy than typical incandescent bulbs. A bonus is that LED lights also last up to 25 times longer than a traditional bulb, significantly reducing replacement costs and minimizing service calls.

Making the Switch

While these energy savings have an immediate impact on your bottom line, the retrofit process requires an upfront investment, a sound project plan and effective process management.

So how do you make the most of that investment? By being mindful about managing that upfront cost.

One way to do this is to be product agnostic and vendor neutral, focusing on a best-in-class approach to product selection based on the specific application, efficiency requirements and project economics. We are fortunate that there are literally thousands of LED offerings from hundreds of manufacturers available, giving you the flexibility to assess the factors that are the best fit for your operation.

This allows you to prioritize important considerations such as:

Lighting aesthetics. LEDs enable you to create dynamic lighting environments that use brightness, light distribution and color to create a certain mood and influence how people think and feel when they enter your environment. Unlike fluorescents, LEDs come in a broad color temperature range and are dimmable, allowing you to adjust the lighting to fit the time of day. Vendor neutrality allows you to pick the best product for each of your lighting needs. While it's easy to look for a single lighting vendor, you sacrifice that "best fit" solution for some or all of your lighting needs.

Product performance. With a life expectancy of around 10 years, LED lighting significantly outperforms fluorescent and incandescent lighting.

In addition, the directionality of light matters. The change to small LED light sources makes it possible to shrink and fine tune the optics, using small metal reflectors or optical refractors to direct the light.

"Good lumens" fall in the areas we want to illuminate, while "bad lumens" are those that fall outside the intended area, often with unintended neighborhood encroachment and night-time environmental impact issues. Lighting products that maximize the amount of good lumens versus bad lumens allow you to get the most efficiency for your energy output. In essence, bad lumens are wasted energy—in the case of exterior parking lots, this is the light that shines upward or on grass versus the parking lot.

Design Lights Consortium is a partnership of lighting industry stakeholders dedicated to accelerating the widespread adoption of high-performing, energy-efficient commercial lighting solutions. DLC tracks product offerings that meet specific and rigorous quality and performance standards. Working with products on this list is a proven way to make best-in-class choices for your lighting design.

Controls. Lighting controls create higher-quality building environments and give you broader oversight of your energy use from lighting and other sources.

For instance, time-based control systems allow lights to be automatically turned on and off via a time clock or lighting control panel system. This ensures the last person to leave for the day does not have to remember to shut off lights and equipment. The system can then turn lighting and other devices on in the morning.

Controls also help you take advantage of natural, ambient light. Sensors detecting daylight can adjust house lights to the right level of brightness and harvest existing natural light. Motion detectors help ensure space lighting is only used on an as-needed or on-demand basis.

Like LED technology, controls technology is exploding, and the industry is taking note. If you've been looking at opportunities to add lighting controls, now is the time to consider making the leap to further maximize your savings potential.

Utility incentives. When you pay your operations' utility bills each month, you're doing more than just keeping the lights on. A portion of these dollars goes toward efficiency programs in the form of custom and prescriptive energy-efficiency rebates and incentives offered by hundreds of utilities across the nation. They can offset project costs and help you achieve bottom-line savings faster during your next lighting retrofit project.

Rebates, which are a return of a portion of costs for service and/ or merchandise, are ways utilities reward you for taking action as part of your normal business practices.

Incentives are used by utilities to elicit a change in behavior and an investment in efficiencies. It's a way of driving new customer investment and behaviors to save energy through approved project elements.

Utility rebates and incentives are important because they can impact which locations you select for your lighting retrofit. Taking a vendor-neutral approach builds on the savings as utilities often specify the types of lighting product you use in their programs. The savings that utility incentives and rebates deliver help your project dollars go further.

Calculating Payback

Lighting retrofits are a significant undertaking and can distract you from the important work you do to run your business. If it is up to you to select a lighting retrofit provider, and choose one that makes vendor neutrality a cornerstone of its business. This organization should be well connected within the lighting industry and a utility trade ally. These qualities mean you have a skilled and knowledgeable resource for program guidelines and timelines, as well as someone who will know how to deal with program changes that commonly occur during retrofit projects.

No matter whether your operation is one location or multiple units spread across the country, lighting experts can help you understand how to optimize this equation:

Project Costs - Incentives Energy Reduction (kWh) x Operating Hours x Utility Rate = ROI

You are essentially taking your project costs and subtracting any utility incentives. Next, consider the energy reduction you are able to achieve and multiply it by the number of hours you operate and the utility rate. Divide the top number by the bottom. Do this for each location. You will find an even stronger ROI when you take into account the probable maintenance costs savings, which is a potentially significant expense.

Knowing the components of this equation gives you clear insight into how you can prioritize your lighting project opportunities, make the most of your lighting project dollars and deliver the savings you need to stay competitive in this tough climate.

Ed Carney is a NAFEM-Certified Food Service Professional (CFSP) and National Account Executive for Energy Management Collaborative. He has long served the food service and food retail facilities management industries with energy efficiency, asset management, equipment repair/maintenance, facility, energy and remote monitoring solutions that are needed to successfully compete in today's challenging environments.